REMARKS

In this Response, Applicants amended claim 1. Claim 1 has been amended to recite that ethylene/1-butene random copolymer (a) contains 1-butene in an amount of 8 to 25 % by mol. Support for this change can be found in the English-language specification as originally filed, *e.g.*, at page 3, line 24 to page 4, line 1. Upon entry of the foregoing amendment, claims 1-9 are pending in the application, with claim 1 being the independent claim.

These changes are not believed to introduce new matter, and their entry is therefore respectfully requested.

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

I. Rejection of the Claims Under 35 U.S.C. § 103

Claim 1 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tasaka *et al.*, JP 2002-322321 ("Tasaka") in view of Lai *et al.*, U.S. Pat. No. 5,272,236 ("Lai"). (Office Action, at page 2, paragraph 3). Applicants respectfully traverse this ground for rejection.

In the interest of expediting prosecution, and without acquiescing to the Office's rejection, Applicants amended claim 1 to recite that ethylene/1-butene random copolymer (a) contains 1-butene in an amount of 8 to 25 % by mol. Applicants respectfully submit that the resin composition, as presently claimed, would not have been obvious in view of the combination of Tasaka and Lai, for at least the following reasons.

As noted in the Office Action, Tasaka is "silent on the ethylene/1-butene random copolymer having specific relationship of MFR and molecular weight distribution." (Office Action, at page 3, paragraph 3, lines 8-9). Furthermore, Tasaka is silent on the specific content of 1-butene in ethylene/1-butene random copolymer (a). Applicants thus submit that the ethylene/1-butene random copolymer (a) of the currently amended claims is not taught or suggested in Tasaka.

Furthermore, Lai also fails to disclose or suggest the specific content of 1-butene in ethylene/1-butene random copolymer (a), and thus fails to remedy the deficiencies of Tasaka. Indeed, Lai discloses an ethylene/ C_3-C_{20} α-olefin copolymer characterized as having:

(a) a molecular weight distribution, Mw/Mn, defined by the equation:

$$Mw/Mn \leq (I_{10}/I_2) - 4.63,$$

(b) a melt flow rate, $(I_{10}/I_2) \geq 5.63$, and

(c) a molecular weight distribution, Mw/Mn, of from about 1.5 to about 2.5. (Lai, claims 1 and 13). The polymers in Lai are characterized as having improved processability and as being "useful in producing fabricated articles such as fibers, films, and molded parts." (Lai, Abstract).

But while Lai does describe ethylene/C_3-C_{20} α-olefin copolymer, Lai does not suggest the limitation of 1-butene as the C_3-C_{20} α-olefin and ethylene/1-butene copolymer having the specific 1-butene content as recited in the amended claims of the present application. Moreover, in the Examples of Lai, only ethylene/octane random copolymers are used.

The ethylene/octane random copolymer ("EOR") is used in Comparative Examples 1 to 3 of the present application specification, as shown in Table 2 on page 27 (reproduced below):

TABLE 2

		Ex. 1	Ex. 2	Comp. Ex. 1	Ex. 3	Ex. 4	Comp. Ex. 2	Ex. 5	Ex. 6	Comp. Ex. 3
Composition	(a)	50			50			50		
	(b)		50			50			50	
	EOR			50			50			50
	G1650	50	50	50	50	50	50	50	50	50
	Polypropylene	20	20	2	20	20	20	20	20	20
	Pariffin oil	120	120	120	130	130	130	140	140	140
TS	MP	8	9	11	6	7	9	5	5	6
Shore-A	---	33	32	45	18	18	30	15	14	27
Oil	24 hr	O	O	O	O	O	O	O	O	O
Bleed	48 hr	O	O	O	O	O	O	O	O	O
	120 hr	O	O	O	O	O	O	O	O	O
	240 hr	O	O	O	O	O	O	O	O	O
	2 weeks	O	O	X	O	O	X	O	O	X

As shown in Table 2, the Shore-A hardness of Comparative Examples 1 to 3 is higher than that of corresponding Examples having the equivalent level of paraffin content, respectively, resulting in the poor oil-bleed property of Comparative Examples 1 to 3.

The Shore-A hardness is a bellwether of moldability, *i.e.,* lower values of Shore-A hardness correlate with higher moldability of the composition. Thus, use of ethylene/1-butene random copolymer is a prerequisite for introduction of these desirable properties.

As disclosed in the present application, the use of ethylene/1-butene random copolymer including the specific amount of 1-butene and having the specific relationship between MFR and the molecular weight distribution is fundamental to achieving the highly-desirable moldability of the composition of the present application.

Because the resin composition of the present application has excellent moldability and sufficient flexibility, the resin composition has fewer oil bleed-out problems. The resin composition of the present application also has excellent flexibility over a wide range of temperatures, as well as excellent thermal resistance. Furthermore, the resin composition according to the present application has excellent moldability with respect to various molding techniques, such as, for example, injection molding, extrusion molding, and the like. As shown above, the use of ethylene/octane copolymer does not result in a composition with these properties.

As a result, one of ordinary skill in the art, in view of Tasaka and Lai, would not have arrived at the claimed resin compositions at the time of the invention. The claimed resin compositions, therefore, would not have been obvious in view of these references.

Therefore, for at least these reasons, Applicants believe the claims are not obvious in view of the cited art and respectfully request the rejection be withdrawn.

II. Rejection of the Claims Under 35 U.S.C. § 103

Claims 2-9 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ahmed *et al.*, U.S. Pat. No. 6,184,291 ("Ahmed") in view of Tasaka. (Office Action, at page 3, paragraph 4.)

According to the Office, Ahmed discloses an elastomeric composition comprising a) from about 70 to about 90 percent by weight of a styrene triblock copolymer, b) from about 10 to about 30 percent by weight of an ethylene interpolymer characterized as an interpolymer of ethylene with at least one C_3-C_{20} α-olefin, and discloses the use of extender oils, but is silent on the amount of oil. (Office Action, at page 4, paragraph 4, lines 1-6). The Office alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the claimed resin composition because Tasaka demonstrates that 1-100 parts by weight of oil can be used to make the composition. (Office Action, at page 4, lines 7-16). Applicants respectfully disagree.

Applicants respectfully submit that the resin compositions and articles, as presently claimed, would not have been obvious in view of the combination of Ahmed and Tasaka, for at least the following reasons.

Ahmed is concerned with block copolymer compositions containing substantially inert thermoelastic extenders. Although the MFR, density, and molecular weight distribution (Mw/Mn) of the ethylene polymers disclosed in Ahmed may overlap with the ethylene/1-butene random copolymer (a) of the present invention, Ahmed does not teach or suggest for the disclosed ethylene polymers the specific relationship between MFR and molecular weight distribution (Mw/Mn) recited in the present claims. Moreover, Ahmed does not teach or suggest the specific content of 1-butene recited in amended claim 1, and therefore also in dependent claims 2-9. In other words, the specific ethylene/1-butene random copolymer used in the present application is never suggested in Ahmed.

As discussed above, Tasaka also fails to disclose or suggest ethylene/1-butene random copolymers in which the MFR and the molecular weight distribution (Mw/Mn) of the copolymer satisfies the relationship recited in the present claims, as well as failing to disclose the specific content of 1-butene in ethylene/1-butene random copolymer (a). Thus, Tasaka fails to remedy the deficiencies of Ahmed.

As a consequence, one of ordinary skill in the art, in view of Ahmed and Tasaka, would not have arrived at the claimed resin compositions at the time of the invention. The

claimed resin compositions, therefore, would not have been obvious in view of these references.

As discussed in the previous Office Action, the ethylene/1-butene copolymer satisfying the specific relationship between MFR and the molecular weight distribution redounds to the highly-desirable moldability of the composition.

The claimed resin compositions have an excellent moldability, making it is easy to mold a blow-molded body, a sheet-molded body, an extrusion-molded body, irregular shaped extrusion-molded body, or injection-molded body using the compositions. During production of the resin composition as described in the specification, the respective components can be kneaded with excellent dispersibility. The claimed resin composition can be molded into molded articles of various shapes by employing known molding methods, without particular limitation, and can be processed into products, for example, fibers, films, coatings and molded products, by using any of the methods well known in the related art which are appropriate for thermoplastic compositions. The claimed resin compositions are particularly appropriate for producing manufactured articles by molding operation.

These effects are not shown in either Ahmed or Tasaka.

In summary, for at least the reasons discussed above, Applicants believe that one of ordinary skill in the art, in view of Ahmed and Tasaka, would not have arrived at the resin compositions and articles of pending claims 2-9 at the time the invention was made. Accordingly, the compositions and articles recited in these claims would not have been obvious in light of Ahmed and Tasaka.

Therefore, for at least these reasons, Applicants respectfully assert that the rejection of claims 2-9 under 35 U.S.C. 103(a) has been overcome and respectfully request that the rejection be withdrawn.

CONCLUSION

Based on the foregoing remarks, Applicants respectfully request that the Examiner reconsider all rejections and that they be withdrawn.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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